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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/765,966	01/29/2004	Takehiro Yoshida	12706/9	2351

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KENYON & KENYON LLP  
1500 K STREET N.W.  
SUITE 700  
WASHINGTON, DC 20005

EXAMINER
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CONSILVIO, MARK J

ART UNIT	PAPER NUMBER
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2872

DATE MAILED: 06/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/765,966

Applicant(s)

YOSHIDA, TAKEHIRO

Examiner

Mark Consilvio

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 March 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-7 is/are allowed.
- 6) ☒ Claim(s) 8-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Status of Claims*

Claims 1-7 were previously rejected and claims 1 and 3 are newly amended. Claims 8-10 are newly added. Claims 1-10 are currently pending.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 8 and 10/8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Knebel (US Patent Application Publication No. 2002/0021440) in view of Middlestadt (US Patent No. 2,964,998) and in further view of Engelhardt et al. (PCT Publication No. WO99/39165) (herein Engelhardt '165).

With respect to claim 8, Knebel discloses spectroscope that resolves a light beam (1) into separated light beams having various wavelengths, and selects and extracts a separated light beam having an arbitrary wavelength from among these separated light beams, comprising: a first mask (3) disposed such that a transmission area (4) of each of the separated light beams in a spectrum direction is limited; where said spectrum direction denotes a direction of the arrangement of these separated light beams when viewed against the line of the resolved separated light beams, wherein: said first mask (3) includes a pair of first mask members which

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are movable closer to or further away from each other so as to adjust a first length of said transmission area (4) in said spectrum direction (fig. 1). Knebel is silent to a second mask disposed such that the transmission area of each of the separated light beams in a direction perpendicular to said spectrum direction is limited. Middlestadt discloses an adjustable aperture apparatus for use with spectrosopes including first and second masks disposed perpendicular to each other and said second mask includes a pair of second mask members (38) which are movable closer to or further away from each other so as to adjust a second length of said transmission area in a direction perpendicular to direction of adjustment of the first mask (fig. 6). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the teachings of Knebel and Middlestadt to provide a second mask disposed such that the transmission area of each of the separated light beams in a direction perpendicular to said spectrum direction is limited, and said second mask includes a pair of second mask members which are movable closer to or further away from each other so as to adjust a second length of said transmission area in said direction perpendicular to said spectrum direction. One of ordinary skill in the art would have been motivated to do this "to provide precision two-dimensional control and additionally provide a light-tight and dust-proof enclosure" (Middlestadt col. 1, lines 35-38). Also, such an arrangement would increase the signal-to-noise ratio allowing for greater spectral resolution.

Further, while Knebel and Middlestadt do not expressly disclose a lens disposed adjacent to the first and second masks, Engelhardt '165 teaches a lens (11) disposed adjacent to said first and second masks and a surface of said lens that is adjacent to said masks has a convex shape that is convex towards these masks. At the time the invention was made, it would have been

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obvious to a person of ordinary skill in the art to modify the teachings of Knebel and Middlestadt to provide a convex lens disposed adjacent to the masks allowing only focused light from the optical system to be detected by being able to effectively remove higher orders of the diffraction pattern (See Engelhardt '165 col. 3, lines 50-64).

With respect to claim 10/8, Knebel discloses a confocal scanning microscope that resolves a light beam from an observation object (14) into separated light beams of various wavelengths, selects a separated light beam having an arbitrary wavelength from among these separated light beams, and receives the selected separated light beam at a photodetector (20), comprising: the spectroscopy being provided between the light paths from said observation object towards said photodetector (20) (fig. 1).

Claims 8, 9, and 10/9/8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Knebel (US Patent Application Publication No. 2002/0021440) in view of Middlestadt (US Patent No. 2,964,998) and in further view of Engelhardt (US Patent Application Publication No. 2003/0095329) (herein Engelhardt '329).

With respect to claim 8, Knebel discloses spectroscopy that resolves a light beam (1) into separated light beams having various wavelengths, and selects and extracts a separated light beam having an arbitrary wavelength from among these separated light beams, comprising: a first mask (3) disposed such that a transmission area (4) of each of the separated light beams in a spectrum direction is limited; where said spectrum direction denotes a direction of the arrangement of these separated light beams when viewed against the line of the resolved separated light beams, wherein: said first mask (3) includes a pair of first mask members which

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are movable closer to or further away from each other so as to adjust a first length of said transmission area (4) in said spectrum direction (fig. 1). Knebel is silent to a second mask disposed such that the transmission area of each of the separated light beams in a direction perpendicular to said spectrum direction is limited. Middlestadt discloses an adjustable aperture apparatus for use with spectrosopes including first and second masks disposed perpendicular to each other and said second mask includes a pair of second mask members (38) which are movable closer to or further away from each other so as to adjust a second length of said transmission area in a direction perpendicular to direction of adjustment of the first mask (fig. 6). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the teachings of Knebel and Middlestadt to provide a second mask disposed such that the transmission area of each of the separated light beams in a direction perpendicular to said spectrum direction is limited, and said second mask includes a pair of second mask members which are movable closer to or further away from each other so as to adjust a second length of said transmission area in said direction perpendicular to said spectrum direction. One of ordinary skill in the art would have been motivated to do this "to provide precision two-dimensional control and additionally provide a light-tight and dust-proof enclosure" (Middlestadt col. 1, lines 35-38). Also, such an arrangement would increase the signal-to-noise ratio allowing for greater spectral resolution.

Further, while Knebel and Middlestadt do not expressly disclose a lens disposed adjacent to the first and second masks, Engelhardt '329 teaches a lens (107) disposed adjacent to first and second masks (53, 55) and a surface of said lens that is adjacent to said masks has a convex shape that is convex towards these masks (figs. 1 and 2). At the time the invention was made, it

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would have been obvious to a person of ordinary skill in the art to modify the teachings of Knebel and Middlestadt to provide a convex lens disposed adjacent to the masks allowing only focused light from the optical system to be detected by being able to effectively remove higher orders of the diffraction pattern.

With respect to claim 9, the combination of Knebel, Middlestadt, and Engelhardt '329 discloses or suggests all the limitations of claim 8 as stated *supra*. Though Knebel and Middlestadt do not expressly disclose a shielding surface on one or both of said masks that is impinged by said separated light beams is slanted so as to avoid facing an optical device adjacent to said shielding surface, Engelhardt '329 teaches a shielding surface on first and second masks (53, 55) that are impinged by said separated light beams (111, 113) is slanted so as to avoid facing an optical device adjacent to said shielding surface (fig. 4). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the teachings of Knebel and Middlestadt to provide a shielding surface on one or both of said masks that is impinged by said separated light beams is slanted so as to avoid facing an optical device adjacent to said shielding surface. One of ordinary skill in the art would have been motivated to do this to eliminate the creation of flare (see Engelhardt '329 p. 2, par. 35).

With respect to claim 10/9/8, Knebel discloses a confocal scanning microscope that resolves a light beam from an observation object (14) into separated light beams of various wavelengths, selects a separated light beam having an arbitrary wavelength from among these separated light beams, and receives the selected separated light beam at a photodetector (20), comprising: the spectroscopy being provided between the light paths from said observation object towards said photodetector (20) (fig. 1).

***Response to Arguments***

Applicant's arguments filed 03/28/2006, with respect to claims 1-7 have been fully considered and are persuasive. The rejection of claims 1-7 has been withdrawn.

Applicant's arguments filed 03/28/2006 with respect to claims 8-10 have been fully considered but they are not persuasive.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the feature upon which applicant relies (i.e., a particular definition of "adjacent") is not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). The focusing lens 11 of Engelhardt is shown to be next to masks of detectors 5A and 5B and thus can broadly be considered to be "disposed adjacent to" its masks.

***Allowable Subject Matter***

Claims 1-7 are allowed.

The following is a statement of reasons for the indication of allowable subject matter: Though the prior art discloses a spectroscopy system that resolves a light beam into separated light beams having various wavelengths, and selects and extracts a separated light beam having an arbitrary wavelength from among these separated light beams, comprising: masks disposed such that a transmission area of each of the separated light beams in a spectrum direction is limited; where said spectrum direction denotes a direction of the arrangement of these separated light beams



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when viewed against the line of the resolved separated light beams, wherein: said masks include mask members which are movable closer to or further away from each other so as to adjust a first length of said transmission area in said spectrum direction, the prior art of record fails to teach or suggest the aforementioned combination further comprising a pair of first mask members and a pair of second mask members which are all independently movable so as to adjust, respectively, a first and second position of the transmission area in a direction in said spectrum direction and perpendicular to said spectrum direction.

### *Conclusion*

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Consilvio whose telephone number is (571) 272-2453. The examiner can normally be reached on Monday thru Friday, 8:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn can be reached on (571) 272-2312. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



*Mark Consilvio*  
USPTO Patent Examiner  
Jefferson, 3C21 AU-2872  
(571) 272-2453



**DREW A. DUNN**  
**SUPERVISORY PATENT EXAMINER**